S PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2022
Data Response

PG&E Data Request No.:	CalAdvocates_017-Q02		
PG&E File Name:	WMP-Discovery2022_DR_CalAdvocates_017-Q02		
Request Date:	March 21, 2022	Requester DR No.:	CalAdvocates-PGE-2022WMP-17
Date Sent:	March 24, 2022	Requesting Party:	Public Advocates Office
PG&E Witness:		Requester:	Holly Wehrman

QUESTION 02

a) Please provide an estimate for the number of EPSS-related outages that you currently forecast to occur in 2022. Provide a range if a specific estimate is not available.

b) Please provide an estimate for the average duration of EPSS-related outages that you currently forecast to occur in 2022. Provide a range if a specific estimate is not available.

c) Please describe the methods used to develop the forecasts noted in parts (a) and (b).

d) Please describe the assumptions used to develop the forecasts noted in parts (a) and (b), including but not limited to assumptions regarding the sensitivity of EPSS settings, the period and geography where those settings will be in effect, and weather conditions.

e) Describe PG&E's plan to minimize the duration of EPSS-related outages in 2022.

ANSWER 02

a) PG&E interprets this question as asking for an estimate of the number of sustained outages expected to be isolated by an enabled EPSS device in 2022. Although PG&E has reviewed the limited number of EPSS events experienced in 2021 and historical outage activity on circuits planned to be made EPSS capable in 2022, it has not forecasted the number of EPSS-related outages expected to occur in 2022, given the significant number of variables potentially contributing to outage activity. It should be noted that utilizing EPSS devices on circuits typically do not result in significantly more outage events but rather may impact more customers and take longer to restore. In addition, there are various factors that will impact the number of EPSS related outages including but not limited to the following:

- Number of days EPSS will be enabled during the year
- Type of weather experienced when EPSS is enabled
- Number of EPSS devices on an individual or group of circuits
- Miles of exposure covered by both the EPSS devices and other downstream non-EPSS devices

In 2021, 155 of the total 170 EPSS enabled circuits experienced a total of 627 EPSS related outages from July 28 to November 24 (or effectively during 119 consecutive days). As of March 2022, PG&E is planning to make devices capable on a total of 1,018 EPSS circuits. This updated total consists of the EPSS circuits deployed in 2021 plus additional EPSS circuits consisting of; (a) 657 EPSS circuits (with devices located in HFTD, HFRA, and Tier 1 areas) and (b) 191 Buffer circuits with all devices located in the Tier 1 area. This information is used in the following table to estimate a forecast of the number of EPSS outages in 2022. In summary, this estimate consists of approximately 3,538 EPSS related outages on enabled circuits in 2022. As stated above, this estimate does not represent a higher number of outages than if EPSS was not enabled, but rather those outages may impact more customers and take longer to restore in some cases if EPSS was not enabled.

	Number of	Days With EPSS		Avg # EPSS	Ratio of Avg # of	Outages	Estimated # of EPSS
EPSS Circuit Group	Circuits	2021	2022	Devices/Ckt	EPSS Devices/Ckt	per Day	Outages in 2022
Circuits with EPSS in 2021	170	119	183	7.20	1.00	5.27	964
New Ckts (HFTD/HFRA & Tier 1 Devices)	657	0	183	4.90	0.68	3.58	2,534
Buffer Ckts (100% Devices in Tier 1)	191	0	30	1.61	0.22	1.18	40
Summary	**1,018**	-	-	-	-	-	**3,538**

b) PG&E estimates the average duration of EPSS-related outages in 2022 will be roughly equal to 292 minutes (or 4.9 hours), which represents the average duration of the EPSS related outages in 2021 that utilized Fast Trip Settings, however we are taking steps to improve on and reduce that average duration in 2022.

c) The method used to develop the forecasts noted in part (a) and in the above table includes the following:
- The total 1,018 EPSS enabled circuits planned for 2022 is divided into three groups and each group is individually forecasted using the assumptions noted in Item (d) and the method steps described below.
- For each EPSS circuit group, the ratio of the average number of EPSS devices per circuit relative to the ratio of the 2021 EPSS circuits is determined. Then an average EPSS related outage per day is estimated by multiplying this ratio times the average number of EPSS related outages per day per circuit (or 5.27 outages/day/170 circuits) as measured in 2021.
- For each group, the estimated number of EPSS related outages in 2022 is estimated by multiplying each group's respective average outage per day per circuits times the number of circuits times the number of days EPSS is expected to be deployed. The sum of each group then represents the estimated total number of EPSS related outages on enabled circuits in 2022.

The method used to develop the forecasts noted in part (b) includes the following:
- The average duration of an EPSS related outage was determined by summing the customer outage minutes and dividing by the sum of total number of sustained customer outages for all EPSS related outages in 2021 that utilized Fast Trip Settings.

d) Below are the assumptions used to develop the forecasts noted in part (a):
   - A total number of 1,018 circuits will utilize EPSS settings in 2022.
   - EPSS will be deployed for approximately 183 days in 2022 for all enabled circuits consisting of devices located in the HFTD, HFRA, and Tier 1 areas.
   - EPSS will be deployed for approximately 30 days in 2022 for all Buffer EPSS circuits having all devices within Tier 1 areas.
   - The 2022 EPSS daily outage rate will be equal to the number of EPSS circuits in 2022 times the 2021 rate per circuit times the ratio of the average number of EPSS devices per circuit relative to 2021.

e) For the safety of PG&E customers, EPSS will be enabled when circuits in HFTD/HFRA are forecasted to meet established criteria that indicate periods of heightened wildfire risk, which are typically most frequently present during summer and fall but can be present in some areas year round. When wildfire risk is lower, the devices are set to be less sensitive, which is expected to reduce the number of EPSS-related outages when circuits are not meeting enablement criteria.. We are planning to augment patrol and restoration resources, and we are evaluating patrol and restoration strategies that could help identify fault locations and aid in more rapid restoration that doesn't introduce increased ignition risk.

Additionally, we continue to strengthen our customer support by augmenting the resources available to customers to help ease the burden of losing power through the expansion of programs such as:

- Generator rebates for customers who rely on well water, customers in our Medical Baseline Program and certain small businesses. This year, we are changing the support tiers so the program is available to more customers.

- Portable batteries for customers in our Medical Baseline Program who live in high fire-risk areas. This year, we are dropping income-based qualifications.

- Backup power transfer meters to make it easier and safer for customers to connect a generator. This program is launching this year as a pilot to select customers.

- Clearer outage notification language with more accurate estimated times of restoration

- New partnerships with community-based organizations to share resources and information as well as food resource partnerships with Meals on Wheels and local food banks